



Delta
Environmental Laboratories

685 Stone Road Ste. 9 - 12
Benicia, CA 94510
T: 707.747.6081
F: 707.361.5689
www.deltaenvironmentallab.com

March 19, 2019

Analytical Report

Client: Solano County
675 Texas S., Suite 5500
Fairfield, CA 94533

Attn: Colby LaPlace

Work Order #: 1903044

Project: Flue Gas Scrubber

Project #: [none]

P.O. Number:

Project Received: March 15, 2019 13:50

Project Reported: March 19, 2019 11:41

Sincerely,

Timea Majoros

Timea Majoros, Ph.D.
Laboratory Director / President



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WORK ORDER: 1903044

COC Number:

Solano County

675 Texas S., Suite 5500
Fairfield, CA 94533

Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #:[none]

Sample Summary

Lab ID	Sample	Matrix	Date Sampled	Date Received
1903044-01	FGS GS21	Aqueous	March 15, 2019 12:20	March 15, 2019 13:50
1903044-02	Petroleum Coke	Solid	March 15, 2019 13:15	March 15, 2019 13:50

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COC Number:

Solano County
675 Texas S., Suite 5500
Fairfield, CA 94533

Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #:[none]

Sample Results

Sample Date: March 15, 2019 12:20

Sample: FGS GS21

1903044-01 (Aqueous)

Sample Type:

Prep Date: March 18, 2019 10:18

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Total Mercury by EPA 245.1								
Mercury	0.0002		1.21	ug/L	1	3/19/19	EPA 245.1	19C0116/DV





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Solano County

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Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Sample Results

(Continued)

Sample Date: March 15, 2019 12:20

Sample: FGS GS21 (Continued)

1903044-01 (Aqueous)

Sample Type:

Prep Date: March 18, 2019 10:42

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Total Metals by EPA 200.7 (ICP-AES)								
Antimony	1.00		7.66	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Arsenic	4.00		29.4	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Barium	10.0		88.1	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Beryllium	1.00		21.2	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Cadmium	0.50		10.9	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Chromium	1.00		55.0	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Cobalt	1.00		54.3	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Copper	0.20		52.7	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Lead	1.00		3.97	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Molybdenum	1.00		84.1	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Nickel	2.00		237	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Selenium	0.400		37.0	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Silver	0.500		69.5	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Thallium	2.00		43.7	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Vanadium	2.00		545	ug/L	2	3/18/19	EPA 200.7	19C0119/DV
Zinc	0.20		40.9	ug/L	2	3/18/19	EPA 200.7	19C0119/DV





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Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Sample Results

(Continued)

Sample Date: March 15, 2019 13:15

Sample: Petroleum Coke

1903044-02 (Solid)

Sample Type:

Prep Date: March 18, 2019 10:22

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
Total Mercury by EPA 7471								
Mercury	0.200		ND	mg/kg	1	3/18/19	EPA 7471	19C0117/DV

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COC Number:

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Fairfield, CA 94533

Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Sample Results

(Continued)

Sample Date: March 15, 2019 13:15

Sample: Petroleum Coke (Continued)

1903044-02 (Solid)

Sample Type:

Prep Date: March 18, 2019 10:25

Analyte	Reporting Limit	Qual	Result	Unit	Dilution Factor	Date Analyzed	Method	Batch/Analyst
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Total Metals by EPA 6010B (ICP-AES)

Antimony	0.24		ND	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Arsenic	0.48		ND	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Barium	2.42		ND	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Beryllium	0.24		<u>0.58</u>	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Cadmium	0.24		ND	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Chromium	0.24		0.98	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Cobalt	0.48		1.09	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Copper	0.10		0.87	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Lead	0.48		ND	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Molybdenum	0.48		1.96	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Nickel	0.97		6.18	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Selenium	0.48		0.95	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Silver	0.24		1.16	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Thallium	0.001		1.31	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Vanadium	0.97		12.2	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV
Zinc	0.10		1.34	mg/kg	1	3/19/19	EPA 6010B	19C0118/DV

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PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Quality Control

Total Mercury by EPA 245.1

Prepared: Mar-18-19 Analyzed: Mar-19-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
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Batch: 19C0116

Analyst: DV

Blank (19C0116-BLK1)

Mercury	ND	0.0002	ug/L
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LCS (19C0116-BS1)

Mercury	2.15	0.0002	ug/L	2.00	108	80-120
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LCS Dup (19C0116-BSD1)

Mercury	2.38	0.0002	ug/L	2.00	119	80-120	10.2	20
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Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Quality Control

(Continued)

Total Mercury by EPA 7471

Prepared & Analyzed: Mar-18-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
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Batch: 19C0117

Analyst: DV

Blank (19C0117-BLK1)

Mercury	ND	0.200	mg/kg
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LCS (19C0117-BS1)

Mercury	0.179	0.200	mg/kg	0.167	108	80-120
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LCS Dup (19C0117-BSD1)

Mercury	0.198	0.200	mg/kg	0.167	119	80-120	10.2	20
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PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Quality Control

(Continued)

Total Metals by EPA 200.7 (ICP-AES)

Prepared & Analyzed: Mar-18-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
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Batch: 19C0119

Analyst: DV

Blank (19C0119-BLK1)

Arsenic	ND	2.00	ug/L
Copper	ND	0.10	ug/L
Chromium	ND	0.500	ug/L
Lead	ND	0.500	ug/L
Cadmium	ND	0.25	ug/L
Selenium	ND	0.200	ug/L
Barium	ND	5.00	ug/L
Cobalt	ND	0.500	ug/L
Vanadium	ND	1.00	ug/L
Beryllium	ND	0.500	ug/L
Zinc	ND	0.10	ug/L
Antimony	ND	0.500	ug/L
Molybdenum	ND	0.500	ug/L
Nickel	ND	1.00	ug/L
Silver	ND	0.250	ug/L
Thallium	ND	1.00	ug/L

LCS (19C0119-BS1)

Arsenic	696	2.00	ug/L	600	116	80-120
Barium	614	5.00	ug/L	600	102	80-120
Beryllium	599	0.500	ug/L	600	99.9	80-120
Cadmium	678	0.25	ug/L	600	113	80-120
Chromium	595	0.500	ug/L	600	99.2	80-120
Antimony	676	0.500	ug/L	600	113	80-120
Nickel	692	1.00	ug/L	600	115	80-120
Selenium	669	0.200	ug/L	600	112	80-120
Molybdenum	620	0.500	ug/L	600	103	80-120
Vanadium	598	1.00	ug/L	600	99.7	80-120
Cobalt	627	0.500	ug/L	600	105	80-120
Silver	562	0.250	ug/L	600	93.6	80-120
Lead	644	0.500	ug/L	600	107	80-120

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PO Number:

Project Manager: Colby LaPlace

Project #:[none]

Quality Control
(Continued)

Total Metals by EPA 200.7 (ICP-AES) (Continued)

Prepared & Analyzed: Mar-18-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
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Batch: 19C0119 (Continued)

Analyst: DV

LCS (19C0119-BS1)

Copper		593		0.10	ug/L	600	98.8	80-120		
Thallium		687		1.00	ug/L	600	114	80-120		
Zinc		642		0.10	ug/L	600	107	80-120		

LCS Dup (19C0119-BSD1)

Silver		556		0.250	ug/L	600	92.7	80-120	1.00	20
Barium		614		5.00	ug/L	600	102	80-120	0.147	20
Molybdenum		617		0.500	ug/L	600	103	80-120	0.420	20
Lead		639		0.500	ug/L	600	106	80-120	0.857	20
Vanadium		594		1.00	ug/L	600	99.0	80-120	0.722	20
Antimony		671		0.500	ug/L	600	112	80-120	0.698	20
Zinc		641		0.10	ug/L	600	107	80-120	0.265	20
Copper		586		0.10	ug/L	600	97.7	80-120	1.05	20
Thallium		723		1.00	ug/L	600	120	80-120	5.14	20
Chromium		591		0.500	ug/L	600	98.5	80-120	0.658	20
Cadmium		681		0.25	ug/L	600	114	80-120	0.383	20
Beryllium		691		0.500	ug/L	600	115	80-120	14.3	20
Nickel		699		1.00	ug/L	600	116	80-120	1.01	20
Selenium		662		0.200	ug/L	600	110	80-120	1.14	20
Arsenic		684		2.00	ug/L	600	114	80-120	1.85	20
Cobalt		627		0.500	ug/L	600	104	80-120	0.0798	20

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PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Quality Control

(Continued)

Total Metals by EPA 6010B (ICP-AES)

Prepared: Mar-18-19 Analyzed: Mar-19-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
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Batch: 19C0118

Analyst: DV

Blank (19C0118-BLK1)

Chromium	ND	0.25	mg/kg
Copper	ND	0.10	mg/kg
Silver	ND	0.25	mg/kg
Barium	ND	2.50	mg/kg
Lead	ND	0.50	mg/kg
Cadmium	ND	0.25	mg/kg
Molybdenum	ND	0.50	mg/kg
Beryllium	ND	0.25	mg/kg
Nickel	ND	1.00	mg/kg
Selenium	ND	0.50	mg/kg
Vanadium	ND	1.00	mg/kg
Arsenic	ND	0.50	mg/kg
Antimony	ND	0.25	mg/kg
Thallium	ND	0.001	mg/kg
Zinc	ND	0.10	mg/kg
Cobalt	ND	0.50	mg/kg

LCS (19C0118-BS1)

Barium	30.7	2.50	mg/kg	30.0	102	80-120
Beryllium	30.0	0.25	mg/kg	30.0	99.9	80-120
Antimony	34.4	0.25	mg/kg	30.0	115	80-120
Cadmium	33.9	0.25	mg/kg	30.0	113	80-120
Chromium	29.8	0.25	mg/kg	30.0	99.2	80-120
Arsenic	34.8	0.50	mg/kg	30.0	116	80-120
Nickel	34.6	1.00	mg/kg	30.0	115	80-120
Zinc	32.1	0.10	mg/kg	30.0	107	80-120
Copper	29.6	0.10	mg/kg	30.0	98.8	80-120
Vanadium	29.9	1.00	mg/kg	30.0	99.5	80-120
Lead	32.2	0.50	mg/kg	30.0	107	80-120
Thallium	34.3	0.001	mg/kg	30.0	114	80-120
Molybdenum	31.0	0.50	mg/kg	30.0	103	80-120

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Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Quality Control

(Continued)

Total Metals by EPA 6010B (ICP-AES) (Continued)

Prepared: Mar-18-19 Analyzed: Mar-19-19

Analyte	Source Result	Result	Qual	Reporting Limit	Unit	Spike Level	% REC	%REC Limits	RPD	RPD Limit
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Batch: 19C0118 (Continued)

Analyst: DV

LCS (19C0118-BS1)

Silver	28.0	0.25	mg/kg	30.0	93.4	80-120
Cobalt	31.4	0.50	mg/kg	30.0	105	80-120
Selenium	33.5	0.50	mg/kg	30.0	112	80-120

LCS Dup (19C0118-BSD1)

Zinc	32.0	0.10	mg/kg	30.0	107	80-120	0.265	20
Thallium	35.7	0.001	mg/kg	30.0	119	80-120	4.04	20
Silver	27.8	0.25	mg/kg	30.0	92.7	80-120	0.770	20
Antimony	33.6	0.25	mg/kg	30.0	112	80-120	2.41	20
Selenium	33.1	0.50	mg/kg	30.0	110	80-120	1.14	20
Vanadium	29.7	1.00	mg/kg	30.0	99.0	80-120	0.554	20
Nickel	34.9	1.00	mg/kg	30.0	116	80-120	1.01	20
Barium	30.7	2.50	mg/kg	30.0	102	80-120	0.147	20
Molybdenum	30.9	0.50	mg/kg	30.0	103	80-120	0.420	20
Beryllium	29.6	0.25	mg/kg	30.0	98.6	80-120	1.34	20
Lead	31.9	0.50	mg/kg	30.0	106	80-120	0.857	20
Cadmium	34.0	0.25	mg/kg	30.0	114	80-120	0.383	20
Copper	29.3	0.10	mg/kg	30.0	97.7	80-120	1.05	20
Chromium	29.6	0.25	mg/kg	30.0	98.5	80-120	0.658	20
Cobalt	31.3	0.50	mg/kg	30.0	104	80-120	0.0798	20
Arsenic	34.2	0.50	mg/kg	30.0	114	80-120	1.85	20

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Project: Flue Gas Scrubber

PO Number:

Project Manager: Colby LaPlace

Project #: [none]

Notes and Definitions

Item	Definition
Dry	Sample results reported on a dry weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.
%REC	Percent Recovery
DF	Dilution Factor
LCS	Lab Control Sample
LCSD	Lab Control Sample Duplicate
MDL	Minimum Detection Limit
MRL	Minimum Reporting Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated
J	Results > MDL but < MRL



1703044

Chain of Custody (COC) Form

Results to: Colby LaPlace
Client Name: SOLENO COUNTY - ENVIRAL HEALTH
Address: 635 TEXAS STREET, JARVIS, LA 70048
e-mail: colby@soleno-county.com
Telephone: 510-449-3291
SAMPLER: Jeremy Perrin 65-23 Walter Davenport - Refuse
Turnaround: 48 Hours

Project Name: Blue Grass Scrubber
Release 3-11-03-15
LAB ID
Ref #

Analysis Requested

PH	Percent Moisture	RCI	CAM 17, TLC	TPH-g	TPH-D, 8015M	TPH-Mo	VOC, 8260B	SVOC, 8270C	BTX	TCLP	STLC
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* Colby LaPlace witnessed both sampling procedure. Valero took duplicate sample. Only Valero employee allowed to take samples

#	Sample ID or Location	Date	Time	Matrix	Cont. Type	Preservative	No. of containers	PH	Percent Moisture	RCI	CAM 17, TLC	TPH-g	TPH-D, 8015M	TPH-Mo	VOC, 8260B	SVOC, 8270C	BTX	TCLP	STLC	Comments:
1	Figs G521 (P5603)	3/15/12	12:22	A	Glass	No	1													
2	Petroleum Coke (Silo 1902B)	3/15/12	13:15	S	Glass	No	1													

Relinquished by: [Signature] Date: 3/15/12 13:50
Received By: [Signature] Date: 3/15/12 13:50
Relinquished by: [Signature] Date: 3/15/12 13:50
Received By: [Signature] Date: 3/15/12 13:50

**CONTAINER TYPES: AL = Amber Litter; AHL = 500 ml Amber; PT = Pint (Plastic); QT = Quart (Plastic); HG = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4oz. BACT; BT = Brass Tube; VOA = 40ml. VOA; OTC - Other Type Container

* PRESERVATIVE: 1=HNO3; 2=HCl; 3=H2SO4; 4=Na2S2O3; 5=NaOH; 6=NH4Cl; 7=ZnAc